

What is claimed is:

1 1. A method for processing an internet protocol (IP) packet, comprising the step
2 of identifying that said packet contains motion picture expert group (MPEG)-2 video as a
3 function of only the contents of said IP data payload of said IP packet.

1 2. The invention as defined in claim 1 wherein said MPEG-2 video is in transport
2 stream format.

1 3. The invention as defined in claim 1 wherein said IP data payload contains at
2 least one real time protocol (RTP) packet which contains said MPEG-2 video.

1 4. The invention as defined in claim 1 wherein said IP data payload is a
2 unreliable datagram protocol (UDP) data payload.

1 5. The invention as defined in claim 1 wherein said IP data payload is a
2 transmission control protocol (TCP) data payload.

1 6. The invention as defined in claim 1 further comprising the step of processing
2 said IP packet with a priority assigned for packets containing video when said packet is
3 identified in said identifying step to contain video.

1 7. The invention as defined in claim 1 wherein said identifying step further
2 includes the steps of:

3 determining whether or not there exists within said IP data payload at least an
4 expected pattern of MPEG-2 sync bytes that is indicative of the presence of MPEG-2
5 video.

9. The invention as defined in claim 7 wherein said determining step further comprises the step of:

comparing a first byte of said IP data payload after any real time protocol (RTP) header to the value of an MPEG-2 sync byte; and

when the result of said comparing step is that said first byte of said IP data payload is an MPEG-2 sync byte and the length of said IP data payload after any RTP header is the same as the length of an MPEG-2 transport stream packet, declaring said IP packet to be an MPEG-2 packet.

1 10. The invention as defined in claim 7 wherein said determining step further
2 comprises the step of:

3 terminating said process and indicating that said expected pattern does not exist in
4 said packet unless the length of said IP data payload or the length of said IP data payload
5 less the length of a real time protocol (RTP) header is an integral multiple of the length of
6 an MPEG-2 transport stream packet;

7 pointing a pointer to a byte in said IP data payload, said byte being a first byte of
8 said IP data payload when said length of said IP data payload is an integral multiple of
9 the length of an MPEG-2 transport stream packet and said byte being a first byte of said
10 IP data payload after the length of a real time protocol (RTP) header when said IP data
11 payload less the length of a real time protocol (RTP) header is an integral multiple of the
12 length of an MPEG-2 transport stream packet;

13 performing a comparison between said byte being pointed to with the value of an
14 MPEG-2 sync byte and declaring said IP packet as a candidate to be an MPEG-2 packet
15 when the result of a most recent comparison is that said pointed to byte of said IP data
16 payload has the same value as an MPEG-2 sync byte

17 adjusting said pointer to point to byte in said IP data payload that is offset toward
18 the end of said IP packet by the length of an MPEG-2 transport stream packet;

19 repeating said performing and adjusting steps so long as said most recently
20 executed performing step declared said IP packet as a candidate to be an MPEG-2 packet
21 and the end of said IP data payload is not yet reached; and

22 declaring said packet to be an MPEG-2 packet when the end of said IP data
23 payload is reached during an attempt to execute said adjusting step and said most recently
24 executed performing step declared said IP packet as a candidate to be an MPEG-2 packet.

1 11. The invention as defined in claim 7 wherein said expected pattern is an
2 MPEG-2 sync byte value spaced 188 byte positions apart.

1 12. The invention as defined in claim 7 wherein said expected pattern is an
2 MPEG-2 sync byte value spaced apart by the length of an MPEG-2 transport stream
3 packet.

1 13. The invention as defined in claim 7 wherein said determining step further
2 comprises the step of:

3 declaring said IP packet to be an MPEG-2 packet when a search over the length of
4 a real time protocol header and the length of one MPEG-2 transport stream packet finds
5 sync byte for which offset therefrom by the length of one MPEG-2 transport stream
6 packet there is another sync byte.

1 14. The invention as defined in claim 7 wherein said determining step further
2 comprises the step of:

3 declaring said IP packet to be an MPEG-2 packet when a search over the length of
4 a real time protocol header and the length of one MPEG-2 transport stream packet finds
5 the value of a sync byte for which offset therefrom at each integral multiple of the length
6 of one MPEG-2 transport stream packet there is the value of a sync byte until the end of
7 said IP packet is reached or exceeded.

1 15. The invention as defined in claim 7 wherein said determining step further
2 comprises the step of:

3 declaring said IP packet to be an MPEG-2 packet when a search over the length of
4 a real time protocol header and the length of one MPEG-2 transport stream packet finds
5 the value of a sync byte for which offset therefrom by the length of one MPEG-2
6 transport stream packet there is the end of packet.

1 16. The invention as defined in claim 7 wherein said each of said sync bytes has
2 a value of 0x47.

1 17. The invention as defined in claim 7 wherein said at least one expected
2 pattern is the value of an MPEG-2 sync byte as the first byte of said IP data payload.

1 18. The invention as defined in claim 7 wherein said expected pattern is the
2 value of an MPEG-2 sync byte as the first byte of said IP data payload and every 188
3 bytes thereafter till the end of said IP data payload.

1 19. The invention as defined in claim 7 wherein said at least one expected
2 patterns includes at least one of the sets of patterns consisting of: a) the value of an
3 MPEG-2 sync byte as the first byte of said IP data payload after the length of a real time
4 protocol (RTP) header and said IP data payload after said RTP header length has a length
5 of 188 bytes, b) the value of an MPEG-2 sync byte as the first byte of said IP data
6 payload after the length of a real time protocol (RTP) header and every 188 bytes
7 thereafter till the end of said IP data payload, c) the value of an MPEG-2 sync byte as the
8 first byte of said IP data payload and every 188 bytes thereafter till the end of said IP data
9 payload, d) the value of an MPEG-2 sync byte as the first byte of said IP data payload
10 and said IP data payload has a length of 188 bytes.

1 20. A method for processing an internet protocol (IP) packet, comprising the
2 steps of:

3 searching through a payload of said IP packet for a pattern indicative of the
4 presence of motion picture expert group (MPEG)-2 video; and

5 indicating that said IP packet contains MPEG-2 video only if said pattern is
6 found.

1 21. The invention as defined in claim 20 wherein said searching step further
2 includes the step of:

3 determining whether a payload of said IP packet has a length equal to an integral
4 multiple of a length of an MPEG-2 transport stream packet either before or after
5 subtracting from said payload length the length of an RTP head.

1 22. The invention as defined in claim 20 wherein said searching step further
2 includes the steps of:

3 determining that a payload of said IP packet has a length equal to a length of an
4 MPEG-2 transport stream packet;

5 comparing the value of a first byte at a first location within said packet with the
6 value of an MPEG-2 sync byte; and

7 signaling said pattern is found when the result of said comparing step is that said
8 value of said first byte at said first location matches the value of said sync byte.

1 23. The invention as defined in claim 20 wherein said searching step further
2 includes the step of:

3 determining whether a payload of said IP packet has a length equal to an integral
4 multiple of a length of an MPEG-2 transport stream packet,

5 comparing the value of a first byte at a first location within said packet and each
6 byte at an offset of a length of an MPEG-2 transport stream packet therefrom with the
7 value of an MPEG-2 sync byte; and

8 signaling said pattern is found when the result of each comparison performed in
9 said comparing step is that said first byte of said packet being compared matches the
10 value of said sync byte.

1 24. The invention as defined in claim 20 wherein said searching step further
2 includes the step of:

3 determining whether a payload of said IP packet has a length equal to an integral
4 multiple of a length of an MPEG-2 transport stream packet,

5 comparing the value of a first byte at a first location within said packet and each
6 byte at an offset of a length of an MPEG-2 transport stream packet therefrom with the
7 value of an MPEG-2 sync byte; and

8 signaling said pattern is found when the result of a majority of comparisons
9 performed in said comparing step is that said first byte of said packet being compared
10 matches the value of said sync byte.

1 25. The invention as defined in claim 20 wherein said searching step further
2 includes the step of:

3 determining whether a payload of said IP packet has a length equal to an integral
4 multiple of a length of an MPEG-2 transport stream packet,

5 comparing the value of a first byte at a first location within said packet and each
6 byte at an offset of a length of an MPEG-2 transport stream packet therefrom with the
7 value of an MPEG-2 sync byte; and

8 signaling said pattern is found when the result of at least a majority of
9 comparisons performed in said comparing step is that said first byte of said packet being
10 compared matches the value of said sync byte and said packet was indicated to contain an
11 error.

1 26. The invention as defined in claim 20 wherein said payload is at least one of a
2 set of payloads within an IP packet, said set consisting of: a) an IP data payload, b) an
3 unreliable datagram protocol (UDP) data payload that does not include a real time
4 protocol (RTP) header, c) that portion of a UDP data payload after an RTP header that is
5 included in said UDP data payload, and d) a transmission control protocol (TCP) data
6 payload.

1 27. The invention as defined in claim 20 further comprising the step of
2 processing said IP packet with a priority assigned for packets containing video when said
3 indicating step indicates that said IP packet contains video.

1 28. The invention as defined in claim 20 wherein said pattern corresponds to the
2 value of an MPEG-2 sync byte regularly spaced from an initial position through the end
3 of said payload, said regular spacing being equal to the length of an MPEG-2 transport
4 stream packet, said initial position being located within the length of a real time protocol
5 header and the length of one MPEG-2 transport stream packet from a start of said
6 payload.

1 29. The invention as defined in claim 20 wherein said pattern corresponds to the
2 value of an MPEG-2 sync byte and the end of said IP packet spaced apart by the length of
3 one MPEG-2 transport stream packet, said initial position being located within the length
4 of a real time protocol header and the length of one MPEG-2 transport stream packet
5 from a start of said payload.

1 30. The invention as defined in claim 20 wherein said pattern corresponds to the
2 value of an MPEG-2 sync byte regularly spaced from an initial prescribed position, said
3 regular spacing being equal to the length of an MPEG-2 transport stream packet.

1 31. A method for processing an internet protocol (IP) packet, comprising the
2 steps of:
3 searching through a payload of said IP packet for a pattern indicative of the
4 presence of motion picture expert group (MPEG)-2 video; and
5 indicating that said IP packet contains MPEG-2 video when said pattern is most
6 likely found.

1 32. The invention as defined in claim 31 wherein said pattern corresponds to an
2 MPEG-2 sync byte regularly spaced from an initial prescribed position, said regular
3 spacing being equal to the length of an MPEG-2 transport stream packet.

1 33. The invention as defined in claim 32 wherein said initial prescribed position
2 is a position within the group of positions consisting of: a) the first byte in an IP data
3 payload of said packet, b) the first byte of a UDP payload of said IP packet, c) the first
4 byte after an RTP header of an unreliable datagram protocol (UDP) payload of said IP
5 packet, d) the first byte of a transport control protocol (TCP) payload of said IP packet,
6 and e) the first byte of a TCP payload after a header contained therein indicating real time
7 information is contained in said IP packet.

1 34. The invention as defined in claim 31 further comprising the step of
2 processing said IP packet with a priority assigned for packets containing video when said
3 indicating step indicates that said IP packet contains video.

1 35. A method for processing an internet protocol (IP) packet, comprising the steps
2 of:
3 searching through a payload of said IP packet for a pattern indicative of video;
4 and
5 indicating that said IP packet contains video when said pattern is found; and
6 indicating that said IP packet does not contain video when said pattern is not
7 found.

1 36. The invention as defined in claim 35 further comprising the step of
2 processing said IP packet with a priority assigned for packets containing video when it is
3 indicated that said IP packet contains video.

1 37. The invention as defined in claim 35 wherein said pattern corresponds to the
2 value of an MPEG-2 sync byte regularly spaced from an initial position through the end
3 of said payload, said regular spacing being equal to the length of an MPEG-2 transport
4 stream packet, said initial position being located within the length of a real time protocol
5 header and the length of one MPEG-2 transport stream packet from a start of said
6 payload.

1 38. The invention as defined in claim 35 wherein said pattern corresponds to the
2 value of an MPEG-2 sync byte regularly spaced from an initial prescribed position, said
3 regular spacing being equal to the length of an MPEG-2 transport stream packet.

1 39. The invention as defined in claim 38 wherein said initial prescribed position
2 is a position within the group of positions consisting of: a) the first byte in an IP data
3 payload of said packet, b) the first byte of a UDP payload of said IP packet, c) the first
4 byte after an RTP header of an unreliable datagram protocol (UDP) payload of said IP
5 packet, d) the first byte of a transport control protocol (TCP) payload of said IP packet,
6 and e) the first byte of a TCP payload after a header contained therein indicating real time
7 information is contained in said IP packet.

1 40. A computer program in the form of machine readable instructions, said
2 computer program being for causing a system including a processor to:

3 search through a payload of an internet protocol (IP) packet for a pattern
4 indicative of the video;

5 indicate that said IP packet contains video when said pattern is found; and

6 indicate that said IP packet does not contain video when said pattern is not found.

42. Apparatus comprising:
a processor;
a memory coupled to said processor for storing a received internet protocol (IP) packet; and
a program store;
wherein said program store contains instructions for causing said processor to search through a payload of an internet protocol (IP) packet for a pattern indicative of the video;
indicate that said IP packet contains video when said pattern is found; and
indicate that said IP packet does not contain video when said pattern is not found.

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